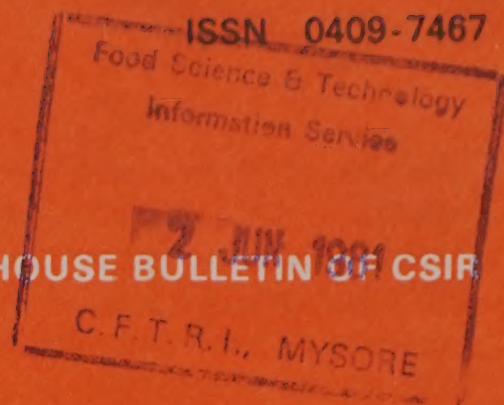




CSIR NEWS

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Exploitation of Sun, Sea and Shore: Prospect & Retrospect Seminar at CSMCRI

Organized by and held at the Central Salt & Marine Chemicals Research Institute (CSMCRI), Bhavnagar, on 30-31 December 1980, the seminar provided not only an opportunity to review the stock of its R&D work in its areas of work but also guidelines to chalk out a future programme of work in many challenging areas, especially alternative sources of energy.

Inaugurating the seminar, Prof. G.K. Menon, Secretary, Department of Science and Technology, and Director General, Scientific & Industrial Research, called for a total national effort towards commercial exploitation of alternative sources of energy for the benefit of masses. With a UN resolution earmarking for each country an exclusive economic zone of 200 km in the oceans for exploitation, India had earned vast resources of marine wealth, which required to be studied physically, biologically and technically, added Prof. Menon.

Shri Nanubhai Amin, a prominent industrialist and chairman, Jyoti Ltd, Gujarat Energy Development Agency, who presided over the inaugural function, said that research had proved that biogas could be an important source of non-commercial energy useful for a decentralized pattern of power production. If a farmer utilized a portion of his land holdings for the growth of a grass mass, he could meet his entire energy needs for irrigation and other purposes. Industrialists should also involve themselves in the exploration of renewable sources of energy so that they

could go in for commercial production for mass consumption, he added.

In his keynote paper, Shri S.K. Vakil presented a complete picture of the present salt industry. He visualized investments of the order of Rs 2000 million in the next ten years and emphasized the importance of recovering marine chemicals. He also suggested Greater Rann of Kutch as the site for the manufacture of potassium fertilizer.

Dr O.P. Kharbanda, in his keynote paper, brought out the importance of desalination plants world over and discussed the pros and cons of various desalination techniques. Prof. R.S. Mehta, presiding over the session, stressed the importance of desalinating brackish water through membrane techniques developed at CSMCRI.

Stressing the importance of seaweeds, Prof. T.V. Desikachary, in his keynote address, recommended harvest holidays to conserve natural resources. Other recommendations made at the session include: meaningful collaboration between seaweed industry and seaweed cultivators; formation of a biological resources agency by DST and CSIR; preparation of a white paper on utilization and cultivation of seaweed resources; and formation of cooperative societies for seaweed cultivation.

Prof. G.V. Joshi suggested a study of natural salt tolerance by plants and application of this technology to local conditions. Prof. O.P. Garg pointed out systems of enzymes in salinity tolerance of plants and emphasized the need for a study at cellular level to differentiate

between tolerant and susceptible species.

The session devoted to solar energy utilization recommended spelling out of a clear-cut energy policy; decentralization of power generation through solar energy; commercial development of solar devices already developed; bioconversion of solar energy; and development of non-commercial fuels.

The seminar concluded with a felicitation to Dr D.J. Mehta, who retired on 31 December 1980 [See CN, 31 (1981), 31]. Presiding over the felicitation session, Prof. S. Nurul Hasan, CSIR's Vice President, complimented CSMCRI for the phenomenal progress it has made in all its areas of work. □

Salt Industry & Research Scientists Get-together

The technical problems of the salt industry, such as those pertaining to improvement in quality and yield of salt and recovery of useful chemicals from bitterns and evaporites, were discussed at a get-together between research scientists from the Central Salt & Marine Chemicals Research Institute (CSMCRI), Bhavnagar, and representatives of salt industry, consulting firms and government departments. The CSMCRI-sponsored get-together, held at Gandhidham on 7-8 February 1981, was co-sponsored by Gandhidham

Inside

Cuddapah Basin Studies: Workshop	... 58
FRG Gifts Drilling Rigs to NGRI	... 58
BHATNAGAR PRIZEWINNER'S WORK: Prof. T. Desiraju: Brain & Behaviour	... 60

Chamber of Commerce and Industry, Indian Salt Manufacturers' Association, and Western India Salt Manufacturers' Association. The main objective of such get-togethers is to apprise industry of the progress of CSMCRI's work in the area of salt and marine chemicals. And the fact that the industry itself is organizing the get-togethers at its premises in recent years unlike in the earlier years, when they were being held at CSMCRI, shows the importance the industry attaches to such gatherings.

The present get-together, eighth in the series, was spread over two technical sessions. The first technical session, presided over by CSMCRI's Acting Director Dr K.S. Rao, discussed problems pertaining to lay-out and design of salt-works, percolation of brines, improvement in quality and yield per hectare of salt, and mechanization in salt industry. The second session, presided over by Shri G.G. Dave, addressed itself to the recovery of potash fertilizer, bromine and magnesium compounds from sea bittern or its evaporites. At the concluding session, Shri Jacob (Indian Farmer Fertilizer Cooperative Ltd, Kandla), who presided over the session, explained the significance of recovery of potassium fertilizers, which are totally imported at present, and called for exploration of the possibilities of potash recovery from underground brine in Greater Rann of Kutch.

Also organized was a three-day training programme on 'Quality control of salt and recovery of marine chemicals' which was attended by 60 trainee delegates. □

Workshop on Cuddapah Basin Studies

Intensification of geological studies like airborne surveys, and deep seismic sounding, magnetic and gravity studies in the Cuddapah Basin was recommended at a workshop on 'Status, Problems and Programmes in Cuddapah Basin' held at the National Geophysical Research Institute

(NGRI), Hyderabad, on 22-23 January 1981. The workshop, fourth in the series, was sponsored jointly by NGRI and Institute of Indian Peninsular Geology (IIPG), Hyderabad, and attended by some 45 geoscientists, planners and administrators from India and abroad.

The workshop resolved that the starting point for further detailed investigations would be the revised geological map to be released shortly by the Geological Survey of India (GSI). A subcommittee consisting of the representatives of GSI, NGRI, and Department of Geology of the Andhra University (Prof. V. Bhaskara Rao), it was proposed, would prepare on the basis of the available data a gravity and magnetic map of the Cuddapah Basin on 1:250,000 scale. Through other recommendations, the workshop urged that studies aimed at finding evidences of life in the basin should be continued, and that geophysical studies should be initiated in the adjacent coeval sedimentary basins such as Pranhita and Godavari valleys.

The workshop was inaugurated by Shri P. Venkatasubbiah, Union Minister of State for Home and Parliamentary Affairs, who called upon the scientists, particularly earth scientists, to strive for the development of neglected areas like the Cuddapah Basin, by way of locating groundwater and other natural resources lying hidden in the region.

In his presidential address, Prof. C. Karunakaran, chairman of IIPG, said that GSI had proved the largest single deposits of barytes of about 75 million tonnes in the west and south-west of Cuddapah Basin. Pleading for nationalization of the deposits and proper organization of export channels for the mineral, he said that the countries of the Gulf region were in need of the barytes and India could possibly strike a better deal with them and import petroleum products on easier terms. Presenting a detailed account of the distribution of minerals in the basin, he said that such geological studies in the region had

made an impact in the field of medicine also, and, in this context, gave example—the cause of fluorosis by local mineral, fluorite, and its cure by another local mineral, serpentine.

Earlier, in his welcome address, Dr Balakrishna, NGRI's Director, described the basin as a unique intercrat basin with a tremendous mine wealth. Referring to the role played by NGRI in the study of Cuddapah Basin, he said that NGRI has conducted several geophysical investigations in the basin and provided an excellent geophysical picture to geoscientists concerned with the region. In view of the importance of the basin, a project on 'Stratigraphy, sedimentation, structure, metamorphism, geomorphology and mineralization in the proterozoic basin of Andhra Pradesh' had been initiated as a first step to take up research problems in the peninsular region, Dr Balakrishna added.

Shri V.S. Krishna Swamy, GSI Director General, in his opening address, traced the history of geological studies in the region conducted by GSI over the last so many decades and discussed their implication in tackling problems in future. □

Electrochemical Processes: Seminar

The Central Electrochemical Research Institute (CECRI), Karaikudi, in collaboration with the Regional Engineering College (REC) students branch of the Institute of Electrical and Electronics Engineers, organized a seminar on Electrochemical processes at REC, Tiruchirapalli, on 14-15 February 1981. The seminar was spread over five sessions: electrochemicals including electrothermal products, electrometallurgy including metal finishing, electrochemical power sources, electrochemical instrumentation, and corrosion and its prevention. CECRI scientists delivered 17 lectures.

The CECRI's Director, Dr H.V.K. Udupa, who inaugurated the seminar, spoke on energy crisis and the role of electrochemistry could play in offering a

ing solution to the crisis. Some of the
r important lectures were on: Role
electrochemistry in all fields of
an endeavour (Shri E.N.
ayanaswamy, Chairman, IEEE,
dras); Need for effecting synergistic
raction among research, industrial
academic establishments (Prof. P.S.
nisundaram, Principal, REC);
evance of electrochemistry in in-
try (Shri R.S. Sharma, General
nager, Simco Meters Ltd,
uchirapalli); and Utilization of
ewable resources, generation of
rogen and utilization of hydrogen
methanol in fuel cells (Shri R.
shnamurthy, BHEL, Tiruchirapalli).
An exhibition on the achievements of
CRI was also arranged. □

FRG Gifts Drilling Rigs to NGRI

o giant drilling rigs, costing Rs 15
lion each, have been gifted to the
tional Geophysical Research
stitute (NGRI), Hyderabad, by the
deral Republic of Germany, under a

bilateral scientific collaboration agree-
ment. Known as 'Failing 3000 CF', it is
a rotary rig designed for drilling deep,
large-diameter commercial wells; it is
capable of drilling up to 12 in. diam.
holes to 3000 ft depth. The rigs have a
two-stage mast reaching up to a height
of 58 ft and can be modified to drill
telescopic holes from 6 to 12 in. diam.

The FRG's Consul-General in
Madras, Dr C. Huebener, recently
inaugurated the operation of one of
these rigs at Puduvayal, 35 km north of
Madras in Chingleput district of Tamil
Nadu. Dr Huebener described the
gifting of the rigs and agreement on
collaborative research between scien-
tists of the two countries as symbols of
Indo-German friendship.

Welcoming the visitors, NGRI's
Director Dr S. Balakrishna pointed out
that 1.53 lakh villages out of 5.7 lakh
villages do not have a source of potable
water within a distance of 1.6 km and
that the water available in some areas
was contaminated. In the enormous
task of providing safe drinking water to

all, NGRI had so far identified water
sources in 8000 villages. Welcoming the
FRG gift, Dr Balakrishna said that the
rigs would facilitate the implementation
of a major six-year groundwater
exploration programme to coincide
with the ushering in of the International
Drinking Water and Sanitation Decade
1981-90. The programme, estimated to
cost Rs 10 million, would initially cover
Tamil Nadu, Andhra Pradesh, Kerala,
and Orissa.

Presiding over the inaugural function,
Prof. Y. Nayudamma, President of the
Committee on Science and Technology
in Developing Countries, described the
Indo-German agreement as truly
'friendly' with no 'strings attached'.

Dr B.D. Pathak, Chief
Hydrogeologist, and member, Central
Groundwater Board, said that CGWB
in collaboration with the State Water
Board had drilled wells with a flow of
200-1800 litres/min in Pudukottai,
Ramanathapuram and Karaikal.

Using these rigs, NGRI will organize
in collaboration with CGWB a six-year



Dr C. Huebener, FRG's Consul-General switching on the operation of deep-drilling rig; on Dr Huebener's left is Dr S. Balakrishna, Acting Director, NGRI. The rig is seen on the left



groundwater exploration programme in some districts of Tamil Nadu, Andhra Pradesh, Kerala, and Mahanadi delta of Orissa. The second rig is expected to be

commissioned soon in the Godavari-Krishna delta in Andhra Pradesh. NGRI and CGWB will jointly organize the deep drilling operations. □

BRAIN AND BEHAVIOUR

BHATNAGAR PRIZEWINNER PROF. DESIRAJU'S WORK*

Prof. Desiraju initiated in 1970 the first major experimental research on the neurophysiology of the association cortex by devising very sophisticated techniques of experimentation using the rhesus monkey. His results have contributed to the advancement of fundamental knowledge on the principles of organization of the association cortex in general and of the prefrontal cortex in particular. He has found, for the first time, a close functional linkage between the prefrontal cortex and the so-called limbic cortex, which is



the older cortex related closely to those parts of brain which play a role in the emotional aspects of the mind and behaviour. Thus, his researches have revealed a mechanism in the brain which would provide the facilities for interaction and integration of the emotional and the intellectual signals of neurons, thereby contributing to the understanding of the scope for control and development of the personality of man's conscious behaviour and nature of thoughts.

Desiraju has contributed significantly in four major fields of research on the nervous system: (i) analysis of cholinergic neurohumoral synaptic transmission using sophisticated neuropharmacological methods; (ii) inter-nuclear intrinsic interactions in the thalamus and the activities evoked by the projections of basal ganglia and cerebellum in the thalamus using intracellular neurophysiological techniques; (iii) transformations of messages of electrical signals in cerebral cortex in different states of sleep; and (iv) analysis of the organization of the highest evolved association area of brain, particularly the prefrontal cerebral cortex.

In recent years, Desiraju has developed an advanced human physiology laboratory and has initiated research into the neurophysiology of altered states of consciousness and subconsciousness in man during the practice of yoga and on aspects of psychophysiology.

Dr Desiraju has been working in the field of neurophysiology since 1958. His experimental research on brain and autonomic ganglia earned him a Ph.D. (1964). He worked at the Andhra Medical College (1958-64), and All India Institute of Medical Sciences (1964-75) before moving over to NIMHANS in 1975. He was concurrently a scientist of the Indian Council of Medical Research till April 1980.

Dr Desiraju has studied the working of several leading brain research centres in USA, Canada, Europe and Japan. He worked at the Albert Einstein College of Medicine, New York (1967-69) and Kennedy Research Center for Mental Retardation and Human Development. He was a Visiting Professor in Japan

during 1974, and in West Germany the Max-Planck Institute, Goettingen during 1977.

Dr Desiraju is recipient Shankuntala Amir Chand Research Prize (1966) of ICMR; Glaxo Orator Award Gold Medal (1971) of the National Academy of Medical Sciences (India); and Major General S.L. Bhatnagar Oration Award (1980) of the Association of Physiologists and Pharmacologists of India.

He has to his credit 86 publications. He has edited 'Mechanisms in transmission of signals for conscious behaviour' (Elsevier, 1976).

Dr Desiraju was an invitee at the IBRO Symposium on Learning and Memory (1977, London), and the International Congress of Physiological Sciences (1980, Budapest), where he presided and conducted the congress symposium on 'Cerebral Cortex'. He was invited as an expert member to lecture and to chair sessions in the UNESCO-IBRO Conference and Workshop on Brain Sciences (1980, Shanghai). □

Prof. Nurul Hasan Presents 'The Wealth of India' to UN University

The CSIR Vice President Prof. S. Nurul Hasan presented a 20-volume set of 'The Wealth of India: A Dictionary of Indian Raw Materials and Industrial Products'—an encyclopaedic publication brought out by the Publications & Information Directorate of CSIR—to the Rector of the United Nations University, Dr Soedjatmoko, at a function held at the university in Tokyo on 18 March 1981.

The function was attended, among others, by UN University officials. In Charge d'affaires, Shri T. Cherpoot, of the Indian Embassy in Japan, and PID's Chief Editor Shri Y.R. Chadha.

While Dr Soedjatmoko greatly appreciated the CSIR gesture, the CSIR Vice President assured all possible assistance from India to the UN University.

*Prof. Turaga Desiraju, Professor and Head, Department of Neurophysiology, National Institute of Mental Health & Neuro Sciences (NIMHANS), Bangalore, is recipient (jointly with Prof. P.R. Adiga) of Shanti Swarup Bhatnagar Prize for 1980 in medical sciences. [CN, 31 (1981), 1].

f. Nurul Hasan had been to Tokyo and the first meeting of the University Advisory Committee. □

Conference Briefs

ASCA Seminar on Scientific and Technical Information

Y.R. Chadha, Chief Editor, Publications & Information Directorate, New Delhi, participated in the ASCA (Association for Science Cooperation in Asia) seminar on Scientific and Technical Information held in Tokyo from 17 to 20 March. The seminar, organized by Science and Technology Agency of Japan on behalf of ASCA, and attended by delegates from Bangladesh, India, Indonesia, South Korea, Philippines, Sri Lanka, Thailand and Japan, had the objective of establishing an STI network for ASCA member countries as a step towards the development of a mutual referral STI network within the region. Shri Chadha was elected chairman of the seminar.

In the first session of the seminar, devoted to discussion of country reports, brought out the importance of STI information and urged that policy makers should be convinced to include scientific and technical information among the priority areas. The session also revealed that each ASCA member country would set up its own national registry of on-going R&D projects in science and technology and make it available to other countries.

The second session addressed itself to areas of cooperation among member countries, namely (i) Education and training of STI personnel, (ii) Creation of a common fund for training, (iii) Language barrier, and (iv) ASCA Information Registry. Following the presentation of the first volume of ASCA Information Registry, brought out by Korea, the seminar recommended that the registry should be brought out annually and should cover policy and planning of science in all ASCA member countries, and that each country should contribute yearly at least

50 relevant reports. One of the important recommendations, made at the instance of the CSIR delegate, was that *Medicinal and Aromatic Plants Abstracts*, issued by PID, could be regarded as the basis for a joint project in the area of medicinal and aromatic plants. It was recommended that a detailed proposal for cooperative input may be prepared by the Indian delegate and be circulated to all ASCA members for their comments and the final proposal presented at the next ASCA conference.

Also discussed at the seminar was the starting of a newsletter for improved communication between STI agencies in ASCA member countries.

Shri Chadha also visited some of the information centres on science and technology in Japan. □

BIPM Meeting & ILAC Conference

Dr Kailash Chandra of the National Physical Laboratory (NPL), New Delhi, attended the International Bureau of Weights and Measures (BIPM) meeting on 'Expression of Uncertainties' (Sevres, 21-23 Oct. 1980) and the International Laboratory Accreditation Conference (ILAC) (Paris, 27-31 Oct. 1980).

At the BIPM meeting, at which representatives of 12 countries participated, Dr Chandra presented an outline of the Commonwealth Science Council document entitled 'Guidelines for estimation and statement of overall uncertainty in measurement result—a document prepared by NPL in collaboration with the Standards and Industrial Research Institute of Malaysia. Discussions at the meeting centred round: (i) use of the standard deviation to characterize the random uncertainty; (ii) use of the conventional probability and the corresponding confidence limits; (iii) nature of systematic errors; (iv) presentation of systematic errors; (v) combination of random and systematic errors; and (vi) form of the final uncertainties. An important recommendation made at the meeting,

reports Dr Kailash Chandra, was that the expression 'systematic uncertainty' should be avoided as it could be misleading. The draft recommendations of the meeting would be circulated among the national measurement laboratories for eliciting comments and the final ones would be sent to International Committee of Weights and Measures (CIPM) for approval.

At the ILAC-80, which was attended by national delegations from 30-odd countries besides representatives of several international organizations, were reviewed the activities of three Task Forces A, B and C (constituted at ILAC-78) concerned respectively with: (i) Legal and regulatory matters raised by mutual recognition of test reports and of laboratory accreditation systems; (ii) Compilation of an 'International directory of laboratory accreditation systems and testing arrangements'; and (iii) Survey of needs, objectives, effects and consequences of the implementation of test laboratory accreditation systems. A suggestion made by Dr Chandra, on behalf of India, that the directory should also include information on calibration systems along with testing systems was accepted.

Dr Chandra also visited the BIPM laboratories. □

Pepper Community Panel Meeting

Shri C.P. Natarajan, Director, Central Food Technological Research Institute (CFTRI), Mysore, who attended, as a member of the Government of India's delegation, the fourth meeting of the Pepper Community Permanent Panel on techno-economic studies held at Kuching, Sarawak, Malaysia, from 9 to 13 December 1980, reports that the three sub-panels of the Pepper Community on (i) production, (ii) marketing, and (iii) processing and product development discussed on-going programmes and priority areas in their respective fields, and made recommendations for further action.

Shri Natarajan was elected chairman of the processing and product develop-

ment sub-panel, which discussed the status reports on India, Indonesia and Malayasia. It was proposed that a workshop on processing of pepper be held at CFTRI, Mysore, at which status reports containing information on harvesting, washing and drying, cleaning and grading, packaging, quality control, and other trade details from member countries would be discussed.

Since future transportation is likely to be containerized, the panel recommended a detailed study in this regard by the Pepper Community. Member countries were urged to make special efforts to prepare documents on the use of pepper in traditional systems of medicine. The panel also emphasized the need to initiate research on insecticidal properties of pepper. The possibility of arranging exchange visits of working scientists under bilateral agreements or through international agencies should be explored, the panel observed. Through another recommendation, the panel urged the International Pepper Community to prepare projects for studies on appropriate storage structures and conditions for ideal storage of pepper at the levels of the farmer, trader, and exporter.

An important topic discussed by the panel on production and marketing was *Phytophthora* eradication. A project proposal based on UNDP's comments was adopted. Experts identified the varieties from India, Indonesia, and Malayasia for inter-country varietal trial.

The sub-panel on marketing of pepper, which considered proposals regarding stabilization of export earnings from pepper, decided that member countries should submit statements of their shipping problems to the secretariat. □

PERSONNEL NEWS

Appointments/Promotions

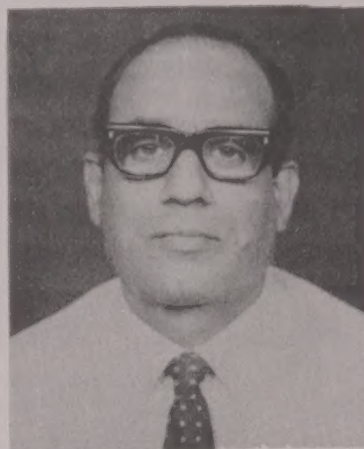
Dr J.N. Baruah

Acting Director of RRL-Jorhat

Dr J.N. Baruah of the Regional Research Laboratory (RRL), Jorhat, took over as Acting Director of the

laboratory on 30 January 1981, consequent on Dr G. Thyagarajan's moving over to RRL, Hyderabad.

An M.Sc. in chemistry from Presidency College, Calcutta, he earned his Ph.D. in biochemistry from Agricultural and Mechanical University, Texas, USA, where he continued his postdoctoral research. On



his return to India in 1960, Dr Baruah was, for a short while, Professor of Chemistry and Biochemistry at Assam Medical College, Dibrugarh, before he joined RRL, Jorhat, in 1961. At RRL he has studied the chemistry and utilization of forest resources of the north-eastern region. His team has successfully carried out research on production of single-cell protein from hydrocarbons, microbial production of enzymes, kinetics and scale-up of reactors, and geomicrobiological production of oil.

On being awarded Andre Meyer fellowship of FAO during 1966-77, he worked on single-cell protein at Massachusetts Institute of Technology, USA. Under National Science Foundation fellowship in 1978 he carried out toxicological evaluation of pesticides and worked on third-generation pesticides at the U.S. Department of Agricultural Research Station, Beltsville, Maryland, and Environmental Research Institute, North Carolina.

Dr Baruah has over a hundred research papers, reviews and books and a number of patents to his credit.

Dr Baruah was also the project coordinator for the chemistry group working on production of caffeine from tea waste, triphenyl, tricresyl, and tributyl phosphates, oxyphenylbu-

tazone, DPT, *p*-toluidine steroids for *Solanum khasianum*, ethanolamine and chemicals based on chlorobenzene. Most of these processes have been licensed and are under commercial production. His team has also developed processes for several important pesticides.

Dr Baruah was a member of the Regional group on pesticides, constituted by the Union Ministry of Petroleum and Chemicals (1976-79). Currently, Dr Baruah is the national coordinator of the inter-country collaborative project on management of water hyacinth. He is also coordinating the work on a multinational institutional project relating to the manufacture of paper and boards from this weed.

Dr R.L. Seth

Dr R.L. Seth of the National Physical Laboratory (NPL), New Delhi, has been promoted, on assessment, as Scientist E1 (14 Nov. 1978).

Dr Seth (born 20 March 1933) obtained his D.Phil. in chemistry in 1961 from Allahabad University and was a lecturer in the Chemistry Department of that university for two years. He joined the Central Electrochemical Research Institute, Karaikudi, as Scientist B in June 1963, and moved to the Central Fuel Research Institute, Dhanbad, on promotion as Scientist C in November 1968. He has been with NPL since April 1977 and working on carbon products in the Carbon Technology Unit.

Dr Seth's research interests include metal chelates, detinning of tin scrap, magnesium water-activated batteries, low-ash cokes and graphites, pitch cokes, surface complexes on carbon, including carbon fibres, and binder pitches. He has to his credit more than 40 research papers and 10 patents covering, among others, processes of detinning, activated batteries and low ash graphites. Dr Seth is also associated with the resin and carbon fibre project funded by the Department of Science and Technology.

Seth visited West Germany under CSIR-DAAD Exchange of Scientists Programme from 17 May to June 1977 in connection with his work on carbon products. He is a member of the Society for Advancement of Electrochemical Technology and the Indian Carbon Society. He is also guiding students for Ph.D. degree. □

Dr A.K. Basu

A.K. Basu, head of the NEERI Water Laboratory, Calcutta, has been promoted, on assessment, as Scientist EI (1 March 1979).

Dr Basu (born 1 Jan. 1933) obtained Ph.D. from the University of Liege, Belgium, following his early education in Bangladesh. He started his career at the All India Institute of Hygiene and Public Health, Calcutta, as research assistant in 1956. Subsequently, he was in charge of Water Pollution Laboratory, Central Indian Fisheries Research Institute, Barrackpore. Dr Basu joined NEERI in 1964.

Dr Basu's research interests include water pollution and wastewater treatment, environmental impact assessment, environmental dimensions in integrated development programme, and air pollution. His work as project leader of (i) Water quality studies of the Hooghly estuary and (ii) Air quality studies of the Calcutta Metropolitan Development Area deserves special mention.

Dr Basu has assisted several international organizations in their technical assistance programmes while working as an Expert of FAO (Rome) and as a Senior Consultant of UNEP (Bangkok) and ADB (Manila). In 1979 he visited Khabarovsk (USSR) as an UNEP observer to the Pacific Science Congress.

Dr Basu is the author of about a hundred scientific papers and reports. He is a member of F.C.I.C. (Canada), I.I.Chem.E., and a life member of the Institution of Public Health Engineers (India). He is proficient in Spanish and French. □

Shri A.D. Bhide

Shri A.D. Bhide, head of the Solid Wastes Division of the National Environmental Engineering Research Institute (NEERI), Nagpur, has been promoted, on assessment, as Scientist EI (1 March 1980).

Shri Bhide obtained his B.E. (civil) degree from Nagpur University in 1961 and M.E. (public health engineering) from University of Roorkee in 1964. He began his career as lecturer in civil engineering at the latter university and taught there till 1969.

Shri Bhide joined NEERI in December 1969 as Scientist C and head of the Solid Wastes Division. At NEERI, he has been principal investigator of several projects, which include surveys of solid waste management practices in 33 Indian cities, and preparation of feasibility reports for mechanical composting of refuse from 12 cities and detailed project reports for plants in five cities. His findings have helped reduce the cost of composting plants by at least 60%.

Shri Bhide has published 45 technical papers and compiled 34 technical reports. Deputed to West Germany on a DAAD scholarship for 16 months during 1973-74, he underwent training in methods of solid wastes recycling at the University of Stuttgart. He is on several committees of the Indian Standards Institution. □

Dr N.M. Parhad

Dr N.M. Parhad of the National Environmental Engineering Research Institute, Nagpur, has been promoted, on assessment, as Scientist EI (29 April 1979).

Dr Parhad (born 12 June 1934) graduated from the Nagpur University in 1957 and obtained M.Sc. in biochemistry from the same university in 1959. Joining NEERI in 1960, he has been in charge of Bacteriology Cell since 1971.

Dr Parhad's researches relate to disinfection of well waters, evaluation of methods for quantifying indicator

organisms and salmonella, and development of soil cultures for treating toxic industrial wastes such as phenol and cyanide.

With a Colombo Plan fellowship he studied trends in the sanitary bacteriology in Japan. Under a WHO programme he underwent training in the anaerobic culturing of microorganisms at Blackburg, Virginia, USA, during 1976. Presently engaged in sanitary microbiology with special reference to water and wastewater treatment, he has to his credit about 50 publications. □

Transfers

Shri H.L. Kapur, Section Officer, Central Scientific Instruments Organisation, Chandigarh, has been transferred to the Publications & Information Directorate, New Delhi (6 April 1981).

Honours

Dr T.N. Khoshoo

Dr T.N. Khoshoo, Director, National Botanical Research Institute, Lucknow, has been elected President of sixty-ninth session of the Indian Science Congress, Botany Section, to be held in January 1982 at Mysore. □

OTAI Awards to RRL-Hyderabad Scientists

Dr G. Lakshminarayana and Dr M.A. Sivasamban of the Regional Research Laboratory (RRL), Hyderabad, have won OTAI awards for their contributions in oil chemistry, technology and allied subjects made during the preceding three years. The awards were presented at the 36th annual convention of the Oil Technologists' Association of India (OTAI) held at RRL, Hyderabad, on 14-15 February 1981.

Dr Lakshminarayana received Dr S. Husain Zaheer Memorial Award (1980), which carries a citation and cash of Rs 2500. His contributions include studies on lesser known oilseeds for augmenting oil and fat resources, methods of detection of adulteration of oils and fats, and effect of environmental factors

on the composition of sunflower seeds and oil.

Dr Sivasamban is recipient of G.S. Nivetia Award (1980), which carries a citation and cash of Rs 1000. He has, in collaboration with Dr M.N. Sathyanarayana and Dr P.S. Sampathkumaran, made significant contributions to knowledge about adhesion of surface coatings to metal substrates, with particular reference to the various factors that affect this important property of coatings. □

CONFERENCE ANNOUNCEMENTS

Binder Economy and Alternative Binders in Road and Building Construction

The Central Road Research Institute, New Delhi, in collaboration with several other organizations, will be holding a two-day symposium on 'Binder economy and alternative binders in road and building construction' during October/November 1981. The symposium will discuss ways and means of economizing the consumption of cement and bitumen; development of alternative hydrocarbon binders, hydraulic and other cementitious binders; and adoption of appropriate construction technologies.

Further details regarding the symposium may be had from: either the Director, or Dr F.K. Ghosh, symposium coordinator, Central Road Research Institute, New Delhi 110020. □

Semiconductor Devices Technology

The Central Electronics Engineering Research Institute, Pilani, will be holding a workshop on 'Semiconductor Devices Technology' from 24 to 28 August 1981. The objectives of the workshop are: to take stock of the existing capabilities in the field of semiconductor devices; to study the advances made in the field; and to identify further needs with a view to evolving a collaborative strategy to meet

these needs. Invited talks will cover: processing technology for power devices, integrated circuits, and thin and thick film hybrid circuits, photovoltaic cell technology, and computer-aided design and testing.

Intending participants may obtain further information from the Head, Information, Planning & Liaison Group, Central Electronics Engineering Research Institute, Pilani 333031. □

International Pepper Community Meeting and Workshop at CFTRI

The fifth meeting of the techno-economic panel of the International Pepper Community will be held at the Central Food Technological Research Institute (CFTRI), Mysore, from 18 to 22 May 1981. The meeting, at which representatives from Indonesia, Malayasia, Madagascar and Brazil, besides India, are expected to participate, will discuss on-going programmes, identify priority areas, and make recommendations for further action.

The meeting will be followed by a workshop on processing of pepper and pepper products, being organized by

CFTRI on 23-24 May. Producers, traders, industrialists, scientists and others will discuss problems relating to raw material, processing and engineering aspects, quality control, packaging and market needs for primary products, grading, and derived products.

An exhibition of various varieties and grades of pepper, products and processing control equipment will also be organized concurrently.

Further details relating to the meeting and workshop may be had from the Director, Central Food Technological Research Institute, Mysore 570002.

PATENTS FILED

818/Del/80: An electronic control device for use as digital point controllers, M.C. Subba Rao & S.C. Mittal—CEERI, Pilani.

819/Del/80: Improved process for extraction of metal values like cobalt, nickel and copper from copper slag, S. Anand, K.S. Rao & P.K. Jena—RRL, Bhubaneswar.

843/Del/80: A process for preparation of catalysts, S.B. Kulkarni, P. Ratnasamy, A.N. Kotasthane & Chandwadkar, G.P. Babu & Chandavar—NCL, Pune.

COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH

Advertisement No. 6/81

It is proposed to fill one post of Scientist F (Deputy Director) at the Central Salt & Marine Chemicals Research Institute, Bhavnagar.

Job requirements: This is a senior-level post and the incumbent is required to provide high level leadership in the marine algae discipline of the institute. He will be responsible for planning, conducting and evaluating research programmes for multidisciplinary projects in the area of marine algae and marine microbiology, including marine biomedical.

Qualifications & experience: (a) *Essential*—(i) M.Sc. in botany, (ii) Ph.D. degree with specialization in marine algae; and (iii) 10 years' research experience in any R&D organization doing research related to marine algae. The applicant should have proven ability to guide young scientists in a multidisciplinary research team, and have an outstanding record of research and development in the utilization and culture of marine algae as evidenced by published papers, patents, etc.; (b) *Desirable*—Experience in microbiological evaluation of antibacterially active substances from marine algae and microorganisms responsible for biogas production in seaweed digesters.

Salary/conditions of service: Scale—Rs 2000-125/2-2500. Initial pay will be fixed according to the person selected. The person selected will be appointed on contract for a period of six years, which would be confirmed after an initial period of two years of satisfactory service. Qualifications and experience are relaxable for candidates otherwise found suitable for the post. Other conditions of contract will be supplied on request.

Age: Below 50 years, relaxable in special cases.

Two copies of the pro forma for sending the curriculum vitae may be obtained from the (Administration), Council of Scientific & Industrial Research, Rafi Marg, New Delhi 110001. It should be submitted on or before 11 June 1981. A brochure on the aims and objects and the latest report of the institute can also be supplied on request.